

## **REMARKS**

### **I. Claims in the Case**

Claims 37 and 38 have been amended. Claim 40 has been cancelled. Claims 37-39, 41, 42 and 52 are currently pending and under examination.

### **II. Response to Examiner's Remarks on Page 2 of Action**

On page 2 of the subject Official Action, the Examiner poses various questions, to which the Applicants will respond first. In doing so, Applicants would like to direct the Examiner's attention to the documents filed with the original application documents on February 27, 2002, as answers to most of the Examiner's questions can be found in these materials.

The Action, in referring to interference no. 103,586, requests that a copy of "the decision" be supplied. Applicants note that a copy of the Federal Circuit opinion, overturning the adverse ruling by the Board of Appeals, was included in the originally-filed documents. Another copy is enclosed herewith. The case on remand was argued before the Board of Appeals in July 2002, but to date no decision has been rendered.

The Action also states that since the present applicants had an adverse decision before the Board that such adverse decision would "require" a rejection of the present claims. This is incorrect. Since the Federal Circuit vacated and remanded the original adverse decision by the Board, there currently is no adverse decision pending. This, taken together with the fact that the Barbacid patent is not prior art on its face, means that the present Examiner has no basis for entering a rejection over Barbacid or the interference proceeding.

The Applicants are of the opinion that the proper course of action for the Examiner here is to first assess the patentability of the pending claims. If they are found to be patentable, then it would be appropriate for the Examiner to make an assessment as to whether the present claims

either “correspond” to the count or, alternatively, are patentably distinct from the count, as this determination has never been made with respect to the present claims. [Please note that the “count” is recited in the enclosed *Brown v. Barbacid* opinion.] If the Examiner determines that the present claims are not patentably distinct from the *Brown v. Barbacid* count, then the Examiner should consider sending the file to the Board for inclusion of the present claim in the ongoing interference. If, on the other hand, the Examiner determines that the present claims are patentably distinct from the count, then they should be passed to issuance.

The Examiner next poses the question of whether all sequence requirements have been met. In response, Applicants believe that all such requirements have been met. The application was filed with a paper copy of the sequence listing and a request to transfer the computer readable copy from the parent. Additionally, a substitute specification was filed that included all required sequence ID numbers in the specification. Please advise if Applicants are in error and there are outstanding sequence issues.

Lastly, the Examiner requests that Applicants inform as to which prior related application first disclosed the presently claimed subject matter. In response, again as noted in the original filing documents, it is Applicants’ contention that the presently claimed subject matter was first disclosed in USSN 07/510,706, filed April 18, 1990.

### **III. Obviousness-Type Double Patenting**

The Action next enters a provisional obviousness-type double patenting rejection of claims 37-42 and 52 over claims 37-39, 41-42 and 52-56 of copending USSN 07/937,893. In response, Applicants would be agreeable to filing a terminal disclaimer over the claims of said application (which is the application currently involved in the aforementioned interference) should the claims be patented and the present claims allowed.

The Action further enters an obviousness-type double patenting rejection over claims 6-15 of US patent 5,962,243. In response, Applicants have enclosed an appropriate terminal disclaimer to address this rejection.

#### **IV. Obviousness Rejection**

The Action next rejects all of the pending claims as obvious over Brown, US 5,962,243.

In response, it is noted that the Action bases its rejection on the contention that the '243 patent is prior art under 102(e). However, 102(e) is not appropriate here in that both the '243 application and the present application claim the benefit of the same April 18, 1990 filing date. Thus, the '243 patent is not prior art. Furthermore, the undersigned representative states on the record that there was a common obligation of assignment, to the Board of Regents of the University of Texas System, owed by the inventors of the '243 patent and the present application at the time the respective inventions were made.

#### **V. Indefiniteness Rejections**

Lastly, the Action enters various rejections under 35 U.S.C. §112, second paragraph, which are addressed separately below.

First, the Action posits that the preamble of claim 37 is inconsistent with the last step. Applicants have amended claim 37 to address the Examiner's concerns. The preamble has been amended and is now in accord with the final step, which references determining "the ability of the candidate substance to treat or palliate the cancer."

Furthermore, claim 38 has been amended to address the antecedent basis problem and also to remove the "protein" from "farnesyl:protein transferase." The terms "farnesyl transferase" and "farnesyl:protein transferase" are generally used interchangeably. However, amendment should address the Examiner's concerns.

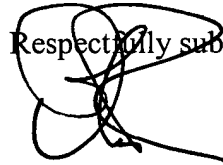
The Examiner's request that the sequence in claim 38 be spelled out conventionally is not understood as it is submitted that the letter designations employed are indeed conventional.

Lastly, the Examiner's rejection of claim 40 is moot in light of the cancellation of that claim.

## **VI. Conclusion**

In conclusion, it is respectfully submitted that the present case is in condition for allowance and an indication of allowability is earnestly solicited. The Examiner is earnestly invited to contact the undersigned attorney at (512) 536-3055 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,



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Date:

9/14/04

**AFFIRM-IN-PART, REVERSE-IN-PART,  
AND REMAND**

**Brown v. Barbacid**

U.S. Court of Appeals  
Federal Circuit  
No. 00-1590

Decided January 11, 2002

**PATENTS**

**[1] Practice and procedure in Patent and  
Trademark Office — Interference —  
Rules and rules practice (§ 110.1704)**

**Practice and procedure in Patent and  
Trademark Office — Interference —  
Burden of proof (§ 110.1707)**

Junior party in interference has burden of proving, by preponderance of evidence, that it made its invention out of chronological order of parties' effective filing dates, and this burden does not shift; however, both parties must be given opportunity to submit evidence regarding priority, and once all evidence is in, Board of Patent Appeals and Interferences must assess, in light of all evidence, whether junior party has met its ultimate burden.

**[2] Practice and procedure in Patent and  
Trademark Office — Interference —  
Rules and rules practice (§ 110.1704)**

**Practice and procedure in Patent and  
Trademark Office — Interference —  
Evidence (§ 110.1709)**

Board of Patent Appeals and Interferences abused its discretion by excluding laboratory notebook entries and autoradiographs from evidence under 37 C.F.R. § 1.671(f), which states that significance of documentary and other exhibits identified by witness must be discussed with particularity by that witness, since inventor's declaration, although it could be more detailed, is sufficient to inform one of skill in art, upon review of relevant notebook entries and autoradiographs, of methods and results of experiments at issue.

**[3] Practice and procedure in Patent and  
Trademark Office — Interference —**

**Rules and rules practice (§ 110.1704)**

**Practice and procedure in Patent and  
Trademark Office — Interference —  
Evidence (§ 110.1709)**

Board of Patent Appeals and Interferences did not err in refusing to allow inventor's own documentary evidence to corroborate his conception or reduction to practice, since inventor's assertions of inventive facts require corroboration by independent evidence, and this requirement is not altered by "rule of reason" test for sufficient corroboration; although corroboration is not required to demonstrate content of physical evidence, such physical evidence may not single-handedly corroborate inventor's testimony.

**[4] Practice and procedure in Patent and  
Trademark Office — Interference —  
Evidence (§ 110.1709)**

**Patentability/Validity — Date of inven-  
tion — Conception (§ 115.0403)**

**Patentability/Validity — Date of inven-  
tion — Diligence (§ 115.0409)**

Board of Patent Appeals and Interferences erred in failing to consider whether laboratory notebook entries and autoradiographs demonstrated conception on date claimed by senior party in interference, since notebook entries and autoradiographs constitute physical evidence that does not require further corroboration to demonstrate its contents, and since senior party also invoked independent testimony, and testimony of co-inventor, regarding conception; board also erred in failing to consider whether senior party was diligent from date of junior party's actual reduction to practice until senior party's filing date.

**Particular patents — Chemical — Can-  
cer assays**

5,185,248, Barbacid and Manne, farnesyl-protein transferase assay for identifying compounds that block neoplastic transformation, decision in interference no. 103,586 awarding priority to inventors vacated.

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Patent interference no. 103,586 between Michael S. Brown, Joseph L. Goldstein, and

Yuval Reiss (application serial no. 07/937,893), senior party, and Mariano Barbacid and Veeraswamy Manne (patent no. 5,185,248), junior party. Senior party appeals from award of priority to junior party. Vacated and remanded; Newman, J., dissenting in separate opinion.

David L. Parker, Steven L. Highlander, and Marcy Hogan Greer, of Fulbright & Jaworski, Austin, Texas, for appellants.

Steven W. Parmelee, Edward J. Keeling, and Mark G. Sandbaken, of Townsend and Townsend and Crew, San Francisco, Calif.; Christopher A. Klein, of Bristol-Myers Squibb Co., Princeton, N.J., for appellees.

Before Newman, Michel, and Rader, circuit judges.

#### Rader, J.

In an interference over a new assay to identify anti-cancer compounds, the United States Patent and Trademark Office Board of Patent Appeals and Interferences (Board) awarded priority to Mariano Barbacid and Veeraswamy Manne (collectively Barbacid) over Michael Brown, Joseph Goldstein, and Yuval Reiss (collectively Brown). Because the Board did not consider evidence that Brown conceived the invention before Barbacid reduced it to practice and diligently pursued the invention from the time of Barbacid's reduction to practice through Brown's filing date, this court vacates the award of priority to Barbacid and remands.

#### BACKGROUND

This case involves an interference between U.S. Patent No. 5,185,248 (the Barbacid patent) and U.S. patent application Serial No. 07/937,893 (the Brown application). The Barbacid patent and the Brown application both claim an assay for identifying new anti-cancer compounds that inhibit farnesyl transferase (FT), an enzyme involved in the control of cell growth. FT functions in the cell by adding farnesyl (a branched-chain polyunsaturated hydrocarbon alcohol intermediate of sterol biosynthesis) to a cysteine amino acid near one end of the protein chain, namely the carboxy-terminus. An important protein susceptible to addition of farnesyl is "ras." The farnesylation reaction activates the ras protein (which stimulates cell growth) by moving ras to the vicinity of the cell membrane. Once near the membrane, ras stimulates cell growth.

Thus, an FT inhibitor would reduce the amount of ras reaching the membrane and therefore reduce ras-stimulated growth (including "cancerous" growth).

The sole count in the interference provides:

A method for identifying a candidate substrate having the ability to inhibit a farnesyl transferase enzyme, comprising the steps of:

6. obtaining an enzyme composition comprising a *farnesyl transferase enzyme* that is capable of transferring a farnesyl moiety to a *farnesyl acceptor substance*;
7. admixing a *candidate substrate* with the enzyme composition and *farnesyl pyrophosphate*; and
8. determining the ability of the farnesyl transferase enzyme to transfer a farnesyl moiety to a farnesyl acceptor substrate in the presence of the candidate substance and in the absence of the candidate substance.

OR

An assay for identifying compounds that inhibit ras oncogene activity, comprising:

6. reacting a *protein or peptide substrate having a CAAX motif* with *farnesyl pyrophosphate* and *farnesyl-protein transferase* in the presence of a *test substrate*, and
7. detecting whether the farnesyl residue is incorporated into the protein or peptide substrate, in which the ability of the test substance to inhibit ras oncogene activity is indicated by a decrease in the incorporation of the farnesyl residue into the protein or peptide substrate as compared to the amount of the farnesyl residue incorporated into the protein or peptide substrate in the absence of the test substrate.

*Barbacid & Manne v. Brown, Goldstein & Reiss*, Interference No. 103,586, slip op. at 2-3 (Bd. Pat. Appeals & Interferences May 30, 2000) (*Board opinion*) (emphasis added). In other words, the method of the count uses: (1) farnesyl transferase (FT); (2) farnesyl pyrophosphate, i.e., the source of farnesyl; (3) a "farnesyl acceptor substance" or "protein or peptide substrate having a CAAX motif," i.e., ras or a peptide of ras containing the CAAX motif (which is farnesylated); and (4) a test or

candidate substrate, which inhibits FT, and therefore, ras protein activity.

The Barbacid patent application was filed on May 8, 1990, and issued on February 9, 1993. The Brown application was filed on December 22, 1992, but was accorded the benefit of an earlier related application filed on April 18, 1990. Thus, Brown was the senior party. Barbacid, as the junior party, had the burden to prove priority by a preponderance of the evidence.

The Board found that Barbacid showed an actual reduction to practice no later than March 6, 1990. The Board also found that Brown did not show reduction to practice of the count before March 6, 1990. Specifically, the Board found that Dr. Yuval Reiss' September 20, 1989 FT experiment did not satisfy every limitation of the count because it did not include a test or candidate substance in the assay. The Board also discounted a September 25, 1989 experiment (which may have satisfied the count) because Dr. Reiss could not authenticate his lab notebooks and autoradiographs. Moreover Dr. Patrick Casey could not corroborate Dr. Reiss' testimony and documents relating to the September 25 experiment.

Responding to a request for reconsideration, the Board declined to consider the testimony of Debra Morgan with respect to Brown's earlier conception and reduction to practice. The Board found that Brown's sole reference to Ms. Morgan in their opening brief was in a section of the Statement of Facts entitled "Brown's Case for Diligence and Corroboration Thereof," but not in the Argument section. Thus, the Board denied Brown's request for reconsideration of its holding that Brown had not reduced the invention to practice before March 6, 1990. Accordingly, the Board awarded priority to Barbacid. Brown appealed.

### DISCUSSION

Priority and its issues of conception and reduction to practice are questions of law predicated on subsidiary factual findings. *Cooper v. Goldfarb*, 154 F.3d 1321, 1327, 47 USPQ2d 1896, 1901 (Fed. Cir. 1998). Accordingly, this court reviews without deference the Board's legal conclusions on priority, conception, and reduction to practice, *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1376, 231 USPQ 81, 87 (Fed. Cir. 1986), and re-

views for substantial evidence the Board's factual findings. *Dickinson v. Zurko*, 527 U.S. 150 (1999); *In re Gartside*, 203 F.3d 1305, 1315, 53 USPQ2d 1769, 1775 (Fed. Cir. 2000). Finally this court reviews the Board's application of its permissive interference rules for an abuse of discretion. *Abrutyn v. Giovanniello*, 15 F.3d 1048, 1050, 29 USPQ2d 1615, 1617 (Fed. Cir. 1994) (citing *Gerritsen v. Shirai*, 979 F.2d 1524, 1527-28, 24 USPQ2d 1912, 1915-16 (Fed. Cir. 1992)).

### I.

In an interference with an application filed after the date of the patent, the junior party must show priority by clear and convincing evidence. 37 C.F.R. § 1.657(c) (2001); *Price v. Symsek*, 988 F.2d 1187, 1190-91, 26 USPQ2d 1031, 1033 (Fed. Cir. 1993). In interferences, such as this case, with an application whose effective filing date antedates the patent issuance, the junior party must show priority by a preponderance of the evidence. 37 C.F.R. § 1.657(c); *Bosies v. Benedict*, 27 F.3d 539, 541-42, 30 USPQ2d 1862, 1864 (Fed. Cir. 1994). Barbacid, as the junior party, has the ultimate burden to prove priority. *Id.* Brown asserts that the Board inappropriately shifted the burden of proof by requiring Brown to show by a preponderance conception or reduction to practice before March 6, 1990 — the date of Barbacid's actual reduction to practice. Brown argues that the Board should have shifted to Brown the burden of production — the burden of going forward with sufficient evidence — rather than the burden of proof.

This court has not addressed whether a senior party has the burden to show by a preponderance a date of invention before the priority date shown by the junior party. The Board cites to a Board decision, *Fisher v. Gardiner*, 215 USPQ 620, 625 (Bd. Pat. Interferences Oct. 30, 1981) ("Inasmuch as Fisher et al. [the junior party] have established a reduction to practice of the subject matter in counts 1, 2 and 4 prior to the senior party's filing date, the burden shifts to Aymami [the senior party] to prove by a preponderance of the evidence a priority date for that subject matter earlier than the July 12, 1973 date established by Fisher et al."). *Board opinion*, slip op. at 12.

[1] To the contrary, 37 C.F.R. § 1.657(a) states: "A rebuttable presumption shall exist that, as to each count, the inventors made their

invention in the c effective filing da shall be upon a wise" (emphasis a same section expla the burden of est ponderance of evic In other words, th ponderance of the party" contending out of chronologic ing dates, i.e., the proof does not shi

Irrespective of parties must be gi mit evidence rega ence proceeding. submitted, the Bo all the evidence whether the junio burden of proving of the evidence.

In sum, under 2 the ultimate burde on the junior part; erred in stating shifted to Brown Notwithstanding still determine wh Board's award of cifically, this cou as the case may b the entire evider bacid ultimately j by a preponderan

Brown alleges ing authentication and autoradiog § 1.671(f). Parag "Evidence must "The significanc exhibits identifie or during oral d with particularit § 1.671(f) (200) Board noted that to explain the en lab notebooks an 902 (excluding n the list of self-dence). The Boe not give sufficie cific entries in hi autoradiographs

invention in the chronological order of their effective filing dates. *The burden of proof shall be upon a party who contends otherwise*" (emphasis added). Paragraph (b) of the same section explains that the junior party has the burden of establishing priority by a preponderance of evidence. 37 C.F.R. § 1.657(b). In other words, the burden of proof by a preponderance of the evidence "shall be on a party" contending they made their invention out of chronological order of the effective filing dates, i.e., the junior party. This burden of proof does not shift.

Irrespective of that burden, however, both parties must be given an opportunity to submit evidence regarding priority in an interference proceeding. Once all evidence has been submitted, the Board must assess, in light of all the evidence presented by both parties, whether the junior party has met its ultimate burden of proving priority by preponderance of the evidence.

In sum, under 37 C.F.R. § 1.657(a) and (b), the ultimate burden of proof always remained on the junior party, Barbacid. Thus, the Board erred in stating that the burden of proof shifted to Brown at any point in this case. Notwithstanding that error, this court must still determine whether the record supports the Board's award of priority to Barbacid. Specifically, this court (or the Board on remand, as the case may be) must determine, based on the entire evidentiary record, whether Barbacid ultimately prevailed in proving priority by a preponderance of evidence.

## II.

Brown alleges that the Board erred in denying authentication to Dr. Reiss' lab notebooks and autoradiographs under 37 C.F.R. § 1.671(f). Paragraph (f) of § 1.671 (entitled "Evidence must comply with rules") states: "The *significance of documentary and other exhibits* identified by a witness in an affidavit or during oral deposition *shall be discussed with particularity by a witness.*" 37 C.F.R. § 1.671(f) (2001) (emphasis added). The Board noted that § 1.671(f) requires a witness to explain the entries of various pages of the lab notebooks and exhibits. *Cf.* Fed. R. Evid. 902 (excluding notes and lab notebooks from the list of self-authenticating extrinsic evidence). The Board found that Dr. Reiss did not give sufficient testimony regarding specific entries in his lab notebook or on relevant autoradiographs (i.e., Exhibit 32). Without an

adequate explanation of Exhibit 32, the Board rejected the exhibit for lack of authentication.

Exhibit 32 refers to notebook pages and autoradiographs from Dr. Reiss' experiments from August to October 1989, including experiments dated September 20 and September 25, 1989. With regard to the September 25 experiment, Dr. Reiss stated in paragraph 24 of his declaration:

On September 25, 1989, I conducted an assay to determine the pH dependence of the farnesyl transferase preparation currently under use (Exhibit 32; pages 0035 to 0039). This study employed a peptide considered to be a potential inhibitor of ras farnesylation. This peptide, comprised the carboxy-terminus ten amino acids of the ras molecule. The format of this assay was the gel electrophoresis format, described above in paragraph 20 [discussing the September 20 experiment]. The radioautograph developed from the corresponding gel (Exhibit 32; page 0038) clearly shows that inclusion of peptide at 10 and 20  $\mu$ g (lanes 14 and 15, respectively) inhibited farnesyl transferase-mediated labeling of ras by  $^{14}$ C-FPP, as determined by the reduction/absence of ras-specific bands in these lanes.

[2] This explanation informs one of skill in the art, upon a review of the relevant autoradiographs and lab notebook pages in Exhibit 32, that Dr. Reiss conducted an FT experiment on September 20, 1989, and then conducted another FT assay using a peptide inhibitor on September 25, 1989. Moreover, an examination of the September 25 autoradiograph from those experiments, specifically lanes 14 and 15 (which can be identified by counting lanes starting from the left), shows that farnesyl transferase-mediated labeling of ras by  $^{14}$ C-FPP was reduced in the presence of the inhibiting peptide.

Dr. Reiss did not analyze every lane in the autoradiograph. For example, he did not expressly state which bands in the gels corresponded to the labeled ras protein. Nor did Dr. Reiss discuss the molecular weight markers (in lane 1 on the left of the autoradiograph). Likewise, he did not describe each experiment in every single lane of the gels. Nevertheless, comparing lanes 2-11 to lanes 14-15 in the September 25 autoradiograph, one of skill in this art would understand that Dr. Reiss had inhibited ras farnesylation in the presence of the peptide.



While Dr. Reiss could have discussed the September 25 experiment in more detail, the Board must nonetheless weigh that evidence from the vantage point of one of skill in the art. See *Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572, 1578, 38 USPQ2d 1288, 1292 (Fed. Cir. 1996) (stating that the trier of fact can conclude for itself what documents show, aided by testimony about the meaning of the exhibit to one skilled in the art). In this case, the notebook data itself explains the methods and results of the September assays. Thus, in light of Dr. Reiss' testimony, one of skill in this art would understand Exhibit 32 relating to the September experiments.

In excluding Exhibit 32 for lack of authentication, the Board applied its own rule. This court reviews the Board's application of its rules for an abuse of discretion. *Abrutyn*, 15 F.3d at 1050 (citing *Gerritsen v. Shirai*, 979 F.2d at 1527-28 (Fed. Cir. 1992)). Notwithstanding that high standard of review, this court finds that the Board abused its discretion by excluding evidence within the understanding of skilled artisans when considering authentication requirements. See *Mahurkar*, 79 F.3d at 1578.

### III.

Brown further argues that the Board erred in refusing to allow an inventor's own documentation to corroborate his conception or reduction to practice. A party seeking to prove conception via the oral testimony of a putative inventor must proffer evidence corroborating that testimony. *Singh v. Brake*, 222 F.3d 1362, 1367 [55 USPQ2d 1673] (Fed. Cir. 2000); *Mahurkar*, 79 F.3d at 1577; *Price v. Symsek*, 988 F.2d 1187, 1194, 26 USPQ2d 1031, 1036 (Fed. Cir. 1993). This corroboration rule does not apply with the same force to proof of inventive facts with physical exhibits. *Mahurkar*, 79 F.3d at 1577-78 ("This court does not require corroboration where a party seeks to prove conception through the use of physical exhibits. The trier of fact can conclude for itself what documents show, aided by testimony as to what the exhibit would mean to one skilled in the art."); *Price*, 988 F.2d at 1195-96; *Loom Co. v. Higgins*, 105 U.S. 580, 594 (1882).

[3] Thus, Brown's physical evidence, such as Dr. Reiss' notebooks and autoradiographs, do not require corroboration to demonstrate the content of the physical evidence itself, namely that FT assay experiments took place

on September 20 and 25, 1989. Conversely, however, the physical evidence in this case may not single-handedly corroborate Dr. Reiss' testimony. See *Price*, 988 F.2d at 1195 ("Unlike a situation where an inventor is proffering oral testimony attempting to remember specifically what was conceived and when it was conceived . . . 'corroboration' is not necessary to establish what a physical exhibit before the board includes. Only the inventor's testimony requires corroboration before it can be considered."); *Hahn v. Wong*, 892 F.2d 1028, 1032, 13 USPQ2d 1313, 1317 (Fed. Cir. 1989); *Blicharz v. Hays*, 496 F.2d 603, 605-06 [181 USPQ 712] (CCPA 1977). Thus, an inventor's testimonial assertions of inventive facts require corroboration by independent evidence. *Thomson S.A. v. Quixote Corp.*, 166 F.3d 1172, 1174-75, 49 USPQ2d 1530, 1533 (Fed. Cir. 1999), cert. denied, 119 S. Ct. 2395 (1999); *Cooper v. Goldfarb*, 154 F.3d 1321, 1330, 47 USPQ2d 1896, 1903 (Fed. Cir. 1998).

This court applies a "rule of reason" analysis to determine sufficient corroboration. *Singh*, 222 F.3d at 1367; *Price*, 988 F.2d at 1195. In applying the "rule of reason" test, this court examines "all pertinent evidence" to determine the credibility of the "inventor's story." *Price*, 988 F.2d at 1195. This "rule of reason" analysis does not alter the requirement of corroboration for an inventor's testimony. The inventive facts must not rest alone on testimonial evidence from the inventor himself. *Cooper*, 154 F.3d at 1330. As stated in *Hahn*, 892 F.2d at 1032, "[t]he inventor . . . must provide independent corroborating evidence in addition to his own statements and documents." See also *Knorr v. Pearson*, 671 F.2d 1368, 1373, 213 USPQ 196, 200 (CCPA 1982) ("[S]ufficient circumstantial evidence of an independent nature can satisfy the corroboration rule.").

Thus, independent evidence must corroborate Dr. Reiss' testimony of conception or actual reduction to practice. The Board did not err in holding that an inventor's own unwitnessed documentation does not corroborate an inventor's testimony about inventive facts.

### IV.

Conception is "the formation in the mind of the inventor[] of a definite and permanent idea of the complete and operative invention, as it is thereafter to be applied in practice." *Singh*, 222 F.3d at 1367 (quoting *Kridl v. McCor-*

*mick*, 105 F.3d 1689 (Fed. Cir. 1997) (marks omitted to pass all limits; see *id.*, and "is so clearly that only ordi reduce the intensive rese; (quoting *Bur Lab., Inc.*, 41 1915, 1919 (I

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mick, 105 F.3d 1446, 1449, 41 USPQ2d 1686, 1689 (Fed. Cir. 1997) (internal quotation marks omitted)). A conception must encompass all limitations of the claimed invention, *see id.*, and "is complete only when the idea is so clearly defined in the inventor's mind that only ordinary skill would be necessary to reduce the invention to practice, without extensive research or experimentation," *Id.* (quoting *Burroughs Wellcome Co. v. Barr Lab., Inc.*, 40 F.3d 1223, 1228, 32 USPQ2d 1915, 1919 (Fed. Cir. 1994)).

As correctly found by the Board, Dr. Reiss did not satisfy every limitation of the count when he conducted his FT assay experiment on September 20, 1989. The laboratory notebook and autoradiograph themselves show that the September 20 experiment did not include the use of a test/candidate substrate (i.e., an inhibitor of FT) — an element of the count. Likewise, in the only independent testimony corroborating Dr. Reiss' experiments, Dr. Casey did not suggest that the September 20 experiment included an FT inhibitor. Thus, the physical and testimonial evidence regarding the September 20 experiment do not show conception or reduction to practice.

#### V.

Unlike the September 20 experiment, the September 25 experiment included a peptide inhibitor of FT in the FT assay. Thus, the September 25 experiment contained all of the limitations of the count. As discussed above, however, independent evidence (testimony or physical evidence from a source other than Dr. Reiss) must corroborate Dr. Reiss' testimony to show an actual reduction to practice. In other words, Dr. Casey's testimony, the only other relevant independent evidence available, must corroborate Dr. Reiss' own statements and documents to show a reduction to practice on September 25, 1989. *Cooper*, 154 F.3d at 1330. Dr. Casey's testimony could not corroborate Dr. Reiss' testimony regarding the September 25 experiment, however, because Dr. Casey did not purport to witness the September 25 autoradiograph. Nor did Dr. Casey purport to discuss the September 25 experiment in particular with Dr. Reiss at any time.

In his declaration submitted to the Board, Dr. Casey stated:

8. On Thursday, September 14, 1989, Dr. Janice Buss came to Southwestern Medical School to present a seminar. I recall that

within a week or so of that date, Dr. Reiss showed me the results of a study in which he had demonstrated farnesyl transferase activity in a gel-based assay. . . . [Description of the experiment] I distinctly recall this study, as it was a very important showing. The notebook page shown in Exhibit 32 as page 0031 [dated September 20, 1989] is the experiment Dr. Reiss showed to me. . . .

9. In the latter part of September, 1989, there was a major development in my own research project that consumed my efforts, and distracted me from the farnesyl transferase project, for about one month. I recall, however, that by at least about the end of October or the beginning of November, I was aware that Dr. Reiss had demonstrated that short peptides, derived from ras, inhibited farnesyl transferase *in vitro* in the gel-based assay described above.

Thus, Dr. Casey did not discuss the September 25 experiment in his declaration. Consequently, the Board did not err when it determined that evidence regarding the September 25, 1989 experiment did not show a reduction to practice.

On the other hand, the physical evidence itself — the September 25 lab notebook pages and autoradiographs — show that an experiment containing all elements of the count took place on that date. As discussed above, this physical evidence requires no further corroboration to demonstrate the content of the physical evidence itself. *Mahurkar*, 79 F.3d at 1577; *Price*, 988 F.2d at 1195-96. In addition, while Dr. Casey's vague testimony does not corroborate Dr. Reiss' testimony of an actual reduction to practice, Dr. Casey's testimony certainly suggests that Dr. Reiss had the idea of combining the FT assay with the use of FT peptide inhibitors sometime before the end of October or the beginning of November 1989. Thus, Dr. Casey's independent testimony corroborates Dr. Reiss' testimony of a conception before November 1989.

In the Facts section of their brief to the Board, Brown stated that they conceived of the invention by September 25, 1989, when that assay showed both FT activity and an inhibition of FT activity by candidate inhibitors. Brown Opening Brief at 13. Moreover, in their Argument section, under "Brown's First Alternative Case for Priority — 'Simultaneous' Conception and Reduction to Prac-

tice," Brown argued (albeit in the alternative and primarily in the section title itself) that Brown both conceived and reduced to practice their invention on September 25, 1989. *Id.* at 33. Brown also cited Dr. Reiss' September 25 lab notebook pages and autoradiographs, as well as Dr. Casey's independent corroboration of Dr. Reiss' testimony regarding conception before the end of October or the beginning of November 1989. *Id.*

Despite Brown's argument and citation to relevant physical and testimonial evidence, the Board did not address whether the September 25 experiment demonstrated conception. *Board opinion*, slip op. at 17-22. The Board only addressed whether the September 20 experiment demonstrated conception and whether the September 25 experiment demonstrated an actual reduction to practice. Moreover, the Board noted: "Without a conception, the issue of reasonable diligence by the inventors to a reduction to practice is moot. Accordingly, we have not considered any evidence relating to diligence." *Id.*, slip op. at 20, n.15.

[4] Priority of invention "goes to the first party to reduce an invention to practice unless the other party can show that it was the first to conceive the invention and that it exercised reasonable diligence in later reducing that invention to practice." *Price*, 988 F.2d at 1190. Because Brown asserted to the Board conception of the invention on September 25, and invoked physical evidence that did not require corroboration, as well as testimony by Dr. Casey corroborating Dr. Reiss' testimony regarding conception, the Board erred in failing to consider whether the September 25 lab notebook pages and autoradiographs themselves, especially in light of the independent testimony by Dr. Casey, demonstrated conception by Brown. Likewise, the Board erred in failing to consider whether Brown was diligent from March 6, 1990, the date of Barbacid's actual reduction to practice, until Brown's filing date on April 18, 1990. *See Brown Opening Brief* at 34.

## VI.

The Board found that Brown's sole reference to Ms. Morgan in their Opening Brief was found in their section of the Facts entitled "Brown's Case for *Diligence* and Corroboration Thereof" (emphasis added). The Board also found that the Argument section of Brown's brief did not rely on Ms. Morgan's testimony at all. Thus, based on 37 C.F.R.

§ 1.656(b), the Board declined to consider the testimony of Ms. Morgan with respect to Brown's conception and reduction to practice.

37 C.F.R. §§ 1.656(b) and (c) state that the opening brief of a junior and senior party shall contain, *inter alia* (emphasis added):

(5) A *statement of the facts*, in numbered paragraphs, *relevant to the issues presented for decision with appropriate references to the record.*

(6) An *argument*, which may be preceded by a summary, which *shall contain the contentions of the party with respect to the issues it is raising for consideration at final hearing, and the reasons therefor, with citations to the cases, statutes, other authorities, and parts of the record relied on.*

37 C.F.R. § 1.656(b), (c) (2001).

In their Opening Brief, Brown stated in the Facts section, under "D. Brown's Case for Diligence and Corroboration Thereof", in paragraph 24, that Ms. Morgan, a laboratory technician in Dr. Goldstein's and Brown's research group, conducted FT assays using various candidate inhibitors on February 27 and 28, as well as a number of days in March and April 1990. In their Argument section, Brown referenced Ms. Morgan's work only to say that: "Extensive evidence of diligence can be found in AX32, AX33, AX34, AX35, AX36, AX39, AX40, AX41 and AX46." In other words, Brown referred to Ms. Morgan's FT assays using candidate inhibitors only with regard to their argument of reasonable diligence by Brown between their conception date and Brown's filing date of April 18, 1990.

Thus, the Board did not abuse its discretion when it declined to consider Ms. Morgan's testimony with respect to Brown's conception and reduction to practice. For the reasons discussed above, however, the Board did abuse its discretion in refusing to consider Ms. Morgan's testimony with regard to reasonable diligence by Brown from March 6, 1990, until the filing of their patent application on April 18, 1990.

## CONCLUSION

Because the Board did not consider the September 25, 1989 experiment or Dr. Casey's corroborating testimony with regard to conception by Brown, or any evidence of reasonable diligence by Brown between the date of Barbacid's actual reduction to practice and

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the filing of Brown's patent application on April 18, 1990 (such as Ms. Morgan's testimony discussed above), this court vacates the award of priority to Barbacid. Accordingly, this court remands this case back to the Board for further proceedings on Brown's conception and reasonable diligence.

*VACATED and REMANDED.*

Newman, J., dissenting.

This appeal is from a priority decision in a patent interference proceeding. Although the Board of Patent Appeals and Interferences slipped in its application of the evidentiary rules with respect to corroboration, the Board correctly stated and applied the burdens and standards of proof. I must dissent from my colleagues' assignment of error to the Board's statement of the procedural burdens; this court's departure from decades of precedent and practice is unwarranted.

I

The panel majority treats it as a matter of first impression to set the burdens of proof and of production in patent interferences. These burdens were set long ago; they have been consistently applied by the Patent and Trademark Office; they have often been confirmed by the courts — and they are not as the panel majority announces.

The Board stated its procedural sequence and burdens of proof by quoting from *Fisher v. Gardiner*, 215 USPQ 620, 625 (Bd. Pat. Interf. 1981):

Inasmuch as *Fisher et al.* [the junior party] have established a reduction to practice of the subject matter in counts 1, 2 and 4 prior to the senior party's filing date, *the burden shifts* to Aymami [the senior party] to prove by a preponderance of the evidence a priority date for that subject matter earlier than the July 12, 1973 date established by *Fisher et al.* [Emphasis added.]

This is a classical statement of the burdens that apply in a priority contest in the PTO between copending applications: the junior party must go first and present evidence to establish priority of invention, including evidence as appropriate of conception, reduction to practice, and diligence. The burden is on the junior party to overcome the "rebuttable presumption," set in 37 C.F.R. § 1.657(a):

A rebuttable presumption shall exist that, as to each count, the inventors made their in-

vention in the chronological order of their effective filing dates. The burden of proof shall be upon a party who contends otherwise.

If the junior party establishes, by a preponderance of the evidence, an invention date that is earlier than the senior party's effective filing date, the presumption is rebutted. The junior party will then prevail unless the senior party meets its burden of proving an even earlier date of invention.

The panel majority incorrectly holds that the junior party bears the burden of proof at each stage of the proceedings, even after the burden shifts to the senior party. Thus the panel majority errs in holding that "the Board erred in stating that the burden of proof shifted to Brown at any point in this case." Maj. op. at 6. The Board did not err. The Board correctly required Brown, the senior party, to meet the burden of proving, by a preponderance of evidence, conception and/or reduction to practice before the date that had been proven by the junior party Barbacid.

The panel majority propounds a new and confusing rule whereby the senior party, in order to defeat the junior party when the junior party has antedated the senior party's filing date, nonetheless never acquires the burden of proving entitlement to priority. The Board correctly placed on the junior party the burden of rebutting the rebuttable presumption of 37 C.F.R. § 1.657(a). If the junior party cannot do so, the senior party need produce no evidence of its dates of invention. However, when the junior party has established a date of invention earlier than the senior party's effective filing date, the presumption is rebutted, and the burden then shifts to the senior party to prove its dates by submitting evidence of conception and reduction to practice as appropriate. See *Del Vecchio v. Bowers*, 296 U.S. 280, 286-87 (1935) (a presumption is not evidence; it controls the result only when there is a lack of competent evidence).

The senior party's burden of proof of priority dates is unrelated to the evidence of the junior party's work. Each party's showing is based solely on evidence of its own work, and is unrelated to the other party's proofs; the junior party bears no burden of proof as to the senior party's dates of conception and reduction to practice. For the senior party to prevail after the PTO's presumption has been rebutted by the junior party, the senior party must es-

establish its dates in accordance with the same law that applies to the junior party. This procedure remains unchanged from that reported in *Greenwood v. Dover*, 23 App. D.C. 251, 258 (1904):

Moreover, as *Greenwood* [the junior party] has been found to have had his conception at least as early as June 20, 1901, the burden is thrown upon *Dover* [the senior party] to prove a conception prior to that date.

The practice and accompanying burdens were again described in *Ellis v. Maddox*, 96 F.2d 308, 312, 37 USPQ 520, 523 (CCPA 1938):

In the instant case, *Ellis* [the junior party] earliest claimed date is in February, 1926. If the evidence shows that *Maddox* [the senior party] completed the invention of the counts prior to this date, it is immaterial what character of proof *Ellis* submitted to sustain his claim that he completed the invention by February, 1926, since it would follow that the junior party *Ellis* would not have met the burden imposed upon him.

The current practice is unchanged: *see, e.g., English v. Ausnit*, 38 USPQ2d 1625, 1630 (Bd. Pat. App. & Interf. 1994):

As for priority, if *English* [the junior party] proves a date of invention prior to *Ausnit's* [the senior party] filing date, the burden shifts to *Ausnit* to prove an earlier date of invention by a preponderance of the evidence.

*Kwon v. Perkins*, 6 USPQ2d 1747, 1752 (Bd. Pat. App. & Interf. 1988) (*aff'd*: 886 F.2d 325, 12 USPQ2d 1308 (Fed. Cir. 1989)):

Since *Kwon* [the junior party] has established a date of invention prior to the filing date of *Perkins* [the senior party], the burden shifts to *Perkins* to establish an earlier date of invention by a preponderance of the evidence.

*Kubota v. Shibuya*, 999 F.2d 517, 522, 27 USPQ2d 1418, 1422 (Fed. Cir. 1993):

It seems to us that, while the burden initially may be on a party seeking to provoke an interference, or seeking to obtain entitlement to a priority date, once an interference has been declared and a party seeks to change the status of the parties by motion, the burden is then on the movant under the new rules, rather than on the party originally provoking the interference or obtaining entitlement.

These procedures do not conflict with 37 C.F.R. § 1.657(a) and (b), as the panel majority announces. In a definitive text, Charles Gohlz summarized the practice in the PTO:

The above rule [§ 1.657] refers only to the burden of a junior party must carry to prove an invention date prior to the senior party's filing date. A senior party attempting to prove an invention date prior to its own filing date must also prove any such date by the preponderance of the evidence. As to facts other than invention dates, the burden of proof is always on the party alleging them, whether that party is the senior or junior party.

Charles L. Gohlz, *Interference Practice in 6 Irving Kayton et al., Patent Practice 24-76* (1989). This practice does not conflict with 37 C.F.R. § 1.657, as the panel majority announces; it implements it, as the PTO interprets and practices its own Rule.<sup>1</sup>

The Board herein stated the correct procedure and applied the correct standard. I respectfully dissent from the court's assignment of error to the Board's statement and application of law and practice.<sup>2</sup> A change, if warranted, can only be made by this court en banc.

## II

I agree that the Board erred in law in its treatment of the proffered evidence of corroboration. Dr. Reiss' testimonial and documentary evidence of conception and reduction to practice was supported by witnesses who testified variously that they conducted chemical and biological analyses, ordered and prepared materials, discussed the work in progress and its results, and repeated the work. The purpose of the corroboration requirement is to probe the veracity of the inventor's assertions by determining, on the entirety of the testimonial and documentary record, whether it is more likely than not that the asserted activities and events occurred. *See Price v. Symsek*, 988 F.2d 1187, 1195, 26

<sup>1</sup> This implementation of PTO rules requires recognition and deference in accordance with the Administrative Procedure Act.

<sup>2</sup> I take note that the panel majority does not explain how its new rule should affect this interference on remand, leaving the impression that the implications of this change in a century of precedent and practice are neither understood nor considered.

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## PATENTS

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## JUDICIAL PROCEDURE

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(§ 411)

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USPQ2d 1031, 1037 (Fed. Cir. 1993) (applying a rule-of-reason analysis in determining whether the inventor's testimony has been corroborated).

This court's review is, by statute, "on the record before the Patent and Trademark Office." 35 U.S.C. § 144. A full record has been presented, of generally undisputed facts. It is our appellate obligation to decide the appeal, an obligation particularly compelling in view of the rapid evolution of technology and the time and resources consumed by the administrative patent process. Applying the correct law to the undisputed facts with respect to conception, diligence, and reduction to practice, it follows that the party Brown established priority of invention before the dates established by the party Barbacid.

**Antonious v. Spalding & Evenflo  
Companies Inc.**

U.S. Court of Appeals  
Federal Circuit

No. 01-1088

Decided January 7, 2002

**PATENTS**

- [1] Patent construction — Claims — In general (§ 125.1301)

**JUDICIAL PRACTICE AND  
PROCEDURE**

**Procedure — Contempt; sanctions  
(§ 410.49)**

Award of sanctions against patent infringement plaintiff's counsel pursuant to Fed. R. Civ. P. 11 cannot be sustained on ground that counsel's proposed claim construction was frivolous, even though federal district court rejected that construction, since counsel's proffered construction cannot be considered assertion of frivolous legal position within meaning of Rule 11(b)(2), in view of dictionary definition and certain language in patent's written description that supports counsel's construction of critical limitation.

- [2] Procedure — Contempt; sanctions  
(§ 410.49)

Plaintiff may be subject to sanctions, pursuant to Fed. R. Civ. P. 11(b)(3), for failure to

conduct proper prefilings investigation based on single invalid factual or legal theory, even if other asserted theories are valid, since advancing even single invalid theory forces defendant to perform work it should not have been required to do.

**[3] Procedure — Contempt; sanctions  
(§ 410.49)**

Although it is not always necessary, when several different products are charged with patent infringement, for plaintiff's attorneys to inspect each product separately to verify facts on which infringement allegations are based, evidence uncovered by plaintiff's investigation must be sufficient to permit reasonable inference that all accused products infringe; in present case, order imposing sanctions on plaintiff's counsel pursuant to Fed. R. Civ. P. 11 must be vacated and remanded for determination of whether evidence counsel had in their possession at time infringement allegations were made would have led reasonable attorney to believe that each of 21 accused golf clubs satisfied critical limitation of asserted patent claim under counsel's construction of that limitation.

Appeal from the U.S. District Court for the District of Maryland, Garbis, J.

Action by Anthony John Antonious against Spalding & Evenflo Cos. Inc. and Spalding Sports Worldwide for patent infringement. District court granted summary judgment of noninfringement, and awarded sanctions against plaintiff's counsel, Finnegan, Henderson, Farabow, Garrett & Dunner, pursuant to Fed. R. Civ. P. 11. Plaintiff's counsel appeals from sanctions award. Vacated and remanded.

Donald R. Dunner, of Finnegan, Henderson, Farabow, Garrett & Dunner, Washington, D.C.; Thomas H. Jenkins, Washington; Richard L. Rainey, of Finnegan, Henderson, Farabow, Garrett & Dunner, Atlanta, Ga.; Michael J. McCabe II, Atlanta, for plaintiff and sanctioned party-appellant.

Christopher B. Fagan, Richard M. Klein, and Steven M. Auvil, of Fay, Sharpe, Fagan, Minnich & McKee, Cleveland, Ohio, for defendants-appellees.

Before Lourie, Bryson, and Linn, circuit judges.

Bryson, J.

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